

## IN THE CLAIMS

1. (currently amended) [[A]] An immunogenic composition comprising two or more of the following components wherein each component consists of a substantially pure gonococcal antigen selected from the group consisting of: (1) an Outer Membrane Protein A (OmpA) protein; (2) an Outer Membrane Protein H (OmpH) protein; (3) a peptidyl-prolyl cis/trans isomerase (PPIase) protein; (4) an ngs41 protein; (5) an ngs117 protein; and (6) an adhesion penetration protein (App) protein.

wherein the OmpA protein comprises an amino acid sequence having 70% or more identity to SEQ ID NO:2,

wherein the OmpH protein comprises an amino acid sequence having 70% or more identity to SEQ ID NO:3,

wherein the PPIase protein comprises an amino acid sequence having 70% or more identity to SEQ ID NO:4,

wherein the ngs41 protein comprises an amino acid sequence having 70% or more identity to SEQ ID NO:5,

wherein the ngs117 protein comprises an amino acid sequence having 70% or more identity to SEQ ID NO:6; and

wherein the App protein comprises an amino acid sequence having 70% or more identity to SEQ ID NO:7.

2. (currently amended) The immunogenic composition of claim 1, comprising an OmpA protein, wherein the OmpA protein comprises an amino acid sequence: ~~(a)~~

- having 70% or more identity to SEQ ID NO:2; ~~and/or (b) which is a fragment of at least 10 consecutive amino acids of SEQ ID NO:2.~~
3. (withdrawn-currently amended) The immunogenic composition of claim 1, comprising an OmpH protein, wherein the OmpH protein comprises an amino acid sequence: ~~(a) having 70% or more identity to SEQ ID NO:3; and/or (b) which is a fragment of at least 10 consecutive amino acids of SEQ ID NO:3.~~
  4. (currently amended) The immunogenic composition of claim 1, comprising a PPIase protein, wherein the PPIase protein comprises an amino acid sequence: ~~(a) having 70% or more identity to SEQ ID NO: 4; and/or (b) which is a fragment of at least 10 consecutive amino acids of SEQ ID NO:4.~~
  5. (withdrawn-currently amended) The immunogenic composition of claim 1, comprising an Ngs41 protein, wherein the Ngs41 protein comprises an amino acid sequence: ~~(a) having 70% or more identity to SEQ ID NO:5; and/or (b) which is a fragment of at least 10 consecutive amino acids of SEQ ID NO:5.~~
  6. (withdrawn-currently amended) The immunogenic composition of claim 1, comprising an Ngs117 protein, wherein the Ngs117 protein comprises an amino acid sequence: ~~(a) having 70% or more identity to SEQ ID NO:6; and/or (b) which is a fragment of at least 10 consecutive amino acids of SEQ ID NO:6.~~

7. (withdrawn-currently amended) The immunogenic composition of claim 1, comprising an App protein, wherein the App protein comprises an amino acid sequence: ~~(a) having 70% or more identity to SEQ ID NO: 7; and/or (b) which is a fragment of at least 10 consecutive amino acids of SEQ ID NO: 7.~~
8. (withdrawn) A hybrid polypeptide of formula  $\text{NH}_2\text{-A-}\{-\text{X-L-}\}_n\text{-B-COOH}$ , wherein: each X is an amino acid sequence as defined in any one of claims 2 to 7; L is an optional linker amino acid sequence; A is an optional N terminal amino acid sequence; B is an optional C terminal amino acid sequence; and n is 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 14 or 15.
9. (withdrawn) Nucleic acid encoding the hybrid polypeptide of claim 8.
10. (withdrawn) A lipidated gonococcal OmpA protein.
11. (withdrawn) A lipidated gonococcal PPIase protein.
12. (withdrawn) A dimeric gonococcal OmpH protein.
13. (withdrawn) A dimeric gonococcal PPIase protein.
14. (withdrawn) A gonococcus strain, wherein one or more of the following gonococcal antigens is knocked out: (1) OmpA; (2) OmpH; (3) PPIase; (4) ngs41;

- (5) ngs117; and (6) App.
18. (new) An immunogenic composition, comprising an OmpA protein and a PPIase protein,
- wherein the OmpA protein comprises an amino acid sequence having 70% or more identity to SEQ ID NO:2; and
- wherein the PPIase protein comprises an amino acid sequence having 70% or more identity to SEQ ID NO:4.
19. (new) The immunogenic composition of claim 18
- wherein the OmpA protein comprises an amino acid sequence having 80% or more identity to SEQ ID NO:2; and
- wherein the PPIase protein comprises an amino acid sequence having 80% or more identity to SEQ ID NO:4.
20. (new) The immunogenic composition of claim 18
- wherein the OmpA protein comprises an amino acid sequence having 90% or more identity to SEQ ID NO:2; and
- wherein the PPIase protein comprises an amino acid sequence having 90% or more identity to SEQ ID NO:4.
21. (new) The immunogenic composition of claim 18
- wherein the OmpA protein comprises an amino acid sequence having 95%

or more identity to SEQ ID NO:2; and

wherein the PPIase protein comprises an amino acid sequence having 95% or more identity to SEQ ID NO:4.

22. (new) The immunogenic composition of claim 18

wherein the OmpA protein comprises the amino acid sequence shown in SEQ ID NO:2; and

wherein the PPIase protein comprises the amino acid sequence shown in SEQ ID NO:4.